Article S9; No. 3.12bis.2

This item states that coordination made under No. 3.4(i)-3.4(m) shall not be published in the Weekly Circular. IWG-1 recommends that this footnote be deleted as redundant because it is identical to footnote 3.16.1.

Article S9; No. 3.14

This provision makes references to the "responsible administration" in the context of the coordination process. IWG-1 recommends that the term "responsible" be replaced by the term "requesting" to make this provision consistent with Nos. 3.10, 3.11, and 3.12, all of which use the term "requesting administration."

Article S9; Nos. 3.16(b) and 3.16(d)

IWG-1 recommends that the word "other" with reference to administrations be deleted in No. 3.16(b) for clarity; and that the word "promptly" be inserted before the word "publish" in No. 3.16(d) to indicate that prompt publication by the Bureau is required.

Article S9; No. 3.17

This provision establishes a four-month deadline for an administration to inform the initiating administration and the Bureau that its name be included in the coordination request. The triggering event for the four-month deadline is "the date of

publication" of the Weekly Circular. This is a departure from the present practice set forth in RR 1617, which specifies "the date of the relevant Weekly Circular," as distinct from the "date of publication." Because the actual date of publication may not be known and may, therefore, cause confusion, it is preferable that the triggering date be the date appearing on the face of the Weekly Circular.

Article S9, No. 3.25

This provision specifies the steps to be taken by an administration that receives a request for coordination. Such an administration would be required by No. 3.25 to examine interference which may be caused to or by its own assignments. IWG-1 believes that requiring administrations to evaluate not only interference that may be caused by the requesting administration to them but also interference that such administrations may cause to the requesting administration adds an unnecessary complication to the coordination process. IWG-1 recommends that the phrase "or by" be deleted.

Article S9; No. 3.27

IWG-1 recommends the following changes: Change "administration with which coordination was sought" to "administration believing itself affected;" delete the phrase "and the Bureau;" and delete VGE Note 6.

Article S10 (Procedure for Modification of a Frequency Allotment or Assignment Plan)

IWG-1 has reviewed carefully Article S10 which sets forth a unified procedure for modifying each of the frequency allotment or assignment plans contained in the Appendices to the Radio Regulations. These plans differ from one another with respect to their purpose, nature and complexity, and most of the plans contain within themselves a dedicated procedure for plan modification. IWG-1 believes that, although adoption of a single, unified procedure for modification of plans might be a worthwhile goal for the long-term, it is premature to consider such a procedure for WRC-95. Indeed, adoption of a unified plan modification procedure at this time could unduly complicate the overall task of spectrum management, which would be contrary to the fundamental goal of the VGE, which was to simplify the regulation of use of the radio frequency spectrum. Accordingly, IWG-1 recommends that Article S10 as proposed by the VGE not be adopted by WRC-95, but that it be considered by future radio conferences for possible application to future plans.

Article S11 (Notification and Recording of Frequency Assignments)

Article S11; No. 5.7.1

This provision contains the procedure whereby one administration may act on behalf of a group of named administrations with respect to notification of a frequency assignment to a "space station." The use of the term "space

station" is unduly limiting insofar as it does not include associated earth stations. The term "space station" should be replaced with the term "satellite network" which, pursuant to the relevant definition (RR 106), includes the associated earth stations that communicate with a particular satellite system.

Article S11; No. 5.8

IWG-1 recommends substitution of the phrase "an administration" with the phrase "any administration" for purposes of clarity.

Article S11; No. 5.21

IWG-1 recommends that the phrase "together with the assignment" be replaced by the phrase "together with an assignment" for purposes of clarity.

Article S11; No. 5.22

This provision sets forth the procedure to be followed in the event of harmful interference caused by a frequency assignment recorded under No. 5.21. IWG-1 recommends that No. 5.22 be deleted for the reason that it is redundant with the last sentence of No. 5.21.

Article S11; No. 5.24

This provision sets forth the date by which an assignment in a satellite network must be brought into use. IWG-

1 recommends inclusion of the phrase "Notwithstanding the date of receipt of the notice by the Bureau," at the beginning of No. 5.24; and replacement of the word "relevant" with the phrase "special section of the" with respect to the reference to the Weekly Circular. These changes will make it clear that the date of receipt of the notice by the Bureau might occur later than the nine years following the date of publication of the relevant special section of the Weekly Circular.

Article S11; No. 5.29

This provision governs the procedure to be used when use of a recorded assignment to a space station is suspended for a period not exceeding 18 months. IWG-1 notes that the USG has recommended that this provision be deleted for purposes of simplification on the ground that the provision is little used. IWG-1 agrees with the USG proposal.

Article S13 (Instructions to the Bureau)

Section I, Assistance to Administration by the Bureau, Nos. 7.1 through 7.4

The role of the Bureau with respect to assistance to administrations is set forth in Article 16 of the Constitution and Article 12 of the Convention. The goal of the VGE was to simplify the Radio Regulations by removing unnecessary and redundant provisions. Insofar as these functions of the Bureau regarding assistance to administrations are already covered by

the Constitution and the Convention, they would appear to be unnecessary for inclusion in the Radio Regulations.

Appendix S5

IWG-1 notes that the first entry Table S5-1, dealing with the Appendix 29 calculation, omits a condition to determine if coordination may be necessary in the case of analog TV carriers into narrowband (SCPC) carriers. Under the table heading "Threshold/Condition", an addition should be made to indicate that relevant ITU-R texts provide guidance.

SECTION III

PROCEDURAL LANGUAGE TO PROVIDE FOR CERTAIN CONCEPTS IN THE PROCEDURES

SECTION III

PROCEDURAL LANGUAGE TO PROVIDE FOR CERTAIN CONCEPTS IN THE PROCEDURES

A. Introduction

This section provides some sample procedural language to be used in either modifying Resolution 46 or accommodating the VGE proposals.

B. System Specific Coordination Concept

This concept provides for the use of the unique characteristics of Non-GSO MSS systems as a way to avoid the requirement to carry out coordination activities with multiple Administrations having Fixed Services in certain bands shared with MSS allocations which could be used by NON-GSO systems. This will require the addition of three new sections to Section 2.5 of Resolution 46. This concept was developed in Task Group 2/2 and has been incorporated in the output of CPM-95 in a different form.

C. PFD/FDP Thresholds in Certain 2 GHz Allocations

The "trigger" thresholds for coordination developed by TG 2/2 are higher than those in RR 2566 and, would be used in conjunction with the concept in 2.0 above.

D. Coordination Area For Feederlinks

Working Party 4-9/S has indicated in the Draft CPM-95 Report that existing Recommendations ITU-R IS 847, 849 and 850 can be used for determining the coordination area of earth station operation (Section 3.6.3) with non-GSO spacecraft. If Resolution 46 were to be used for allocations designated for use by NON-GSO MSS Feederlinks then provision for such use should be made in Resolution 46. The CPM-95 has done this.

E. Affected Region

The CPM-95 indicates the need to develop language for application of this concept which was agreed by TG 8/3 and for which there is a recommended WP 8D Draft New Recommendation.

F. Possible Procedural Language

Text for the modifications to Resolution 46 for these concepts is descried in Annex A.

ANNEX A

A. **ADD 2.5.6**

Coordination with the Fixed Service of an administration is not required in the bands 2160-2200 MHz or 2500-2535 MHz if

(a) the frequency assignments recorded in the Master Register with a favorable finding with respect to [ ] or not notified but in use or planned to be brought into use within the next 3 years, use analogue modulation and the pfd radiated over the territory of this administration into those frequency assignments does not exceed the following thresholds in MOD RR 2566, or:

(b) the frequency assignments recorded in the Master Register with a favorable finding with respect to [ ], or not notified but in use or planned to be brought into use within the next 3 years, use digital modulation and the FDP caused into reference digital fixed service assignments located in the territory of this administration does not exceed the thresholds in ITU-R IS [Doc. 2/6]

(c) the application of the simulation (standard computation method described in [Recommendation ITU-R 1S [Doc. 2/8]]* to reference fixed service frequency assignment located in the territory of this administration results in an interference level which does not exceed the limits indicated in [Recommendation ITU-R [Doc. 2/6]].

*This standard computation method has yet to be developed.

ADD 2.5.7

Coordination with the Fixed Service of an administration is not required in the band 2483.5-2500 MHz if the frequency assignments recorded in the Master Register with a favorable finding with respect to [5.15a], or not notified but in use or planned to be brought into use within the next 3 years, and the PFD produced at the earth's surface by emissions from space stations radiated over the territory of this administration into these frequency assignments does not exceed the following thresholds per space station:

-150 dB(W/m^2) in any 4 kHz band for angles of arrival between 0 and 5 degrees above the horizontal plane;

-150 + 0.65(-5) dB(W/m^2) in any 4 kHz band for angles of arrival (in degrees) between 5 and 25 degrees above the horizontal plane;

-137 dB(W/m^2) in any 4 kHz band for angles of arrival between 25 and 90 degrees above the horizontal plane. These limits relate to the power flux-density which would be obtained under assumed free-space propagation conditions.

B. In the bands above 1 GHz, for those assignments to be made within the context of [ITU-R-IS-849], the coordination area is as determined therein.

ADD Footnote to Para. 2.5

Frequency assignments to be taken into account in the application of paragraphs 2.1 and 2.2 are those with a frequency overlap with the planned assignment [the frequency assignments to be taken into account at the discretion of the administrations concerned may be determined by application of the affected region method in ITU-R M [Doc. 8/45]] pertaining to the service or to another service to which the band is allocated with equal right or a higher category.

SECTION IV
MODIFICATION OF RR 2613

SECTION IV
MODIFICATION OF RR 2613

A. Introduction

Radio Regulation 2613 provides that:

> § 2. Non-geostationary space stations shall cease or reduce to a negligible level their emissions, and their associated earth stations shall not transmit to them, whenever there is insufficient angular separation between non-geostationary satellites and geostationary satellites resulting in unacceptable interference[1] to geostationary-satellite space systems in the fixed-satellite service operating in accordance with these regulations.
>
> [1] The level of accepted interference shall be fixed by agreement between the administrations concerned, using the relevant CCIR Recommendations as a guide.

RR 2613 (WARC-92).

In the course of its review of proposals for regulatory changes to be recommended for U.S. Government pursuit at WRC-95, IWG-1 carefully considered the language and intent of Radio Regulation 2613, with a view toward determining whether the language of the regulation, the applicability of the regulation, neither, or both, need to be modified. The question is particularly pointed with respect to the relationship between operations of feeder links for nongeostationary mobile satellite service ("NGSO MSS") systems (as those feeder links will generally use the fixed-satellite service ("FSS") bands), and geostationary FSS ("GSO FSS") systems. GSO FSS systems and NGSO MSS feeder link systems are both permissible uses of FSS bands. However, the issue is applicable to all NGSO systems that currently operate or may operate in bands used by GSO FSS systems.

IWG-1 concluded that both the language of the regulation and its applicability should be modified. IWG-1 did not attempt to reach consensus on a proposed substantive modification. Nevertheless, individual members of IWG-1 did supply proposals for substantive modification of the regulation. While these proposals are not consensus views of the group, and are to be considered the individual opinions of the author(s), they are included for informational purposes as annexes to this Report.

IWG-1 did, however, reach consensus on several matters pertaining to the applicability of RR 2613. In view of the fact that there is consensus within IWG-1 that RR 2613 does not now accomplish its intended purpose, and thus needs to be revised, IWG-1 contemplates that all proposals to alter the applicability of RR 2613 would include and refer to the regulation as

substantively modified. As a result, any examples of attempts to alter the applicability of RR 2613 that are detailed in this Report reference the current language of RR 2613 for purposes of example only. Once RR 2613 is substantively revised, it is IWG-1's expectation that the applicability proposals made in this Report would be included in MOD RR 2613.

With respect to the applicability of RR 2613, IWG-1 has agreed on a suggested approach to RR 2613 for FSS frequency bands below 17.7 GHz, for FSS frequency bands above 30.0 GHz, and for such frequency band segments in the FSS bands at 17.7-20.2 GHz and 27.5-30.0 GHz as may be designated for the use of NGSO MSS feeder links. In other areas, however, complete consensus on the applicability of RR 2613 was not reached. IWG-1 recognizes that IWG-4 was unable to reach consensus on how to accommodate NGSO MSS feeder link systems on a co-directional basis in the 17.7-20.2 GHz and 27.5-30.0 GHz bands. This last area of disagreement from IWG-4 carried over to IWG-1's consideration of the regulation. To accommodate this situation, IWG-1 has identified the outstanding concerns of both the GSO FSS community and the NGSO licensees and proponents with respect to RR 2613 in those segments of the 17.7-20.2 GHz and 27.5-30.0 GHz bands that would not be designated for the use of NGSO MSS feeder link networks.

B. Options Considered by IWG-1

IWG-1 identified two basic options for modifying the applicability of RR 2613. The primary focus of the group's efforts was on the FSS bands at 17.7-20.2 GHz and 27.5-30.0 GHz, where current GSO FSS use is relatively minimal (but where one U.S. applicant has proposed to operate a global GSO FSS system), and where several U.S. licensees and proponents of global NGSO MSS and global NGSO FSS/MSS systems have proposed to locate the feeder and/or service links for their systems.

There was general agreement that the FSS bands in the 4/6 GHz and 12/14 GHz ranges that are currently heavily used by GSO FSS systems should continue to enjoy the protections that RR 2613 is intended to provide such systems from NGSO systems in the same bands. There was also general agreement that for FSS bands above 30 GHz, where no realistic proposals for GSO FSS or NGSO MSS systems have yet been made, it would be premature to apply RR 2613; instead, future WRCs should address the question of the applicability of RR 2613 (or its successor) to above 30 GHz FSS bands on a case-by-case basis as proposals are made for the use of those bands.

The options are outlined below:

1. Limit Applicability of RR 2613 to Current, Heavily-Used FSS Bands

There is no real dispute that RR 2613 should continue to apply in the FSS frequency bands that are currently in heavy use by GSO FSS systems, and thus are not appropriate for use by emerging NGSO MSS feeder link systems. The issue of the applicability of RR 2613 generally is most controversial in FSS bands that are not yet in heavy use by GSO FSS systems. In these bands (e.g., the 27.5-30.0 GHz and 17.7-20.2 GHz bands), this option avoids subjecting the first-in-use NGSO MSS systems, and the new services and expanded markets they represent, to the potential burdens that RR 2613 embodies.

To address this concern, and still continue to protect GSO FSS users in heavily-used bands, any modification to RR 2613 should reference the heavily-used bands. Thus, using the present text of RR 2613 and certain heavily-used FSS bands below 17.7 GHz as an example only, the protection would be applied as follows:

> § 2. In the frequency bands 3700-4200 MHz, 5925-6425 MHz, 10.95-11.2 GHz, 11.45-11.7 GHz, 11.7-12.2 GHz, and 14-14.5 GHz, non-geostationary ~~Non-geostationary~~ space stations shall cease or reduce to a negligible level their emissions, and their associated earth stations shall not transmit to them, whenever there is insufficient angular separation between non-geostationary satellites and geostationary satellites resulting in unacceptable interference[1] to geostationary-satellite space systems in the fixed-satellite service operating in accordance with these regulations.
>
> [1] The level of accepted interference shall be fixed by agreement between the administrations concerned, using the relevant ITU-R~~CCIR~~ Recommendations as a guide.

2. Waive RR 2613 in Bands or Specific Sub-bands

A second option is to retain RR 2613, but modify the Article 8 Table to specify particular bands or sub-bands where RR 2613 is inapplicable. This would entail the addition of footnotes to bands or sub-bands that are designated and/or identified for use by NGSO MSS feeder links on either a co-directional or bi-directional basis.

At this time, it would seem that the following FSS bands, or particular sub-bands within these bands, are candidates for inclusion of such a footnote regarding RR 2613:

6825-7075 MHz (space-to-Earth)

10.7-10.95 GHz (Earth-to-space)
11.2-11.45 GHz (Earth-to-space)
12.75-13.25 GHz (space-to-Earth)
15.4-15.7 GHz (space-to-Earth/Earth-to-space)
17.7-18.8 GHz (space-to-Earth)
18.8-19.7 GHz (space-to-Earth/Earth-to-space)
19.7-20.2 GHz (space-to-Earth)
27.5-30.0 GHz (Earth-to-space)

The language of a typical footnote that would be added to the Table in Article 8 in any of the above bands for co-directional operations would be as follows:

ADD

XXX The band xxx-xxx GHz (space-to-Earth) may also be used by the fixed-satellite service on a primary basis for feeder links for non-geostationary satellite systems in the mobile-satellite service. The provisions of No. 2613 do not apply to this fixed-satellite allocation in the space-to-Earth direction of transmission.

The language of a typical footnote that would be added to the Table in Article 8 in any of the above bands for bi-directional operations would be as follows:

ADD

YYY The use of the band yyy-yyy GHz (Earth-to-space) by the fixed-satellite service is limited to feeder links for non-geostationary satellite systems in the mobile-satellite service. The provisions of No. 2613 do not apply to this fixed-satellite allocation in the Earth-to-space direction of transmission.

This option would, on the one hand, be more narrowly tailored than the first option. However, it would need constant monitoring (at every WRC), and would also remove the incentive that GSO and NGSO systems may otherwise have to arrive at innovative technical solutions that will permit co-frequency sharing. It would also make a presumption about the applicability of RR 2613 to FSS frequency bands above 30.0 GHz that is contrary to the view of IWG-1 that flexibility with respect to the application of RR 2613 is important in those as-yet fallow bands.

C. Conclusions and Recommendations

1. Bands Below 17.7 GHz and Bands Above 30.0 GHz

After considering all of the options outlined above, IWG-1 reached consensus on the following proposals for the application of RR 2613 to FSS frequency bands below 17.7

GHz, and for the approach to be taken with respect to FSS frequency bands above 30.0 GHz. Again, the proposals made here would be applied in conjunction with the substantive modifications to RR 2613 that IWG-1 agrees are necessary.

FSS Bands Below 17.7 GHz:

IWG-1 agrees that RR 2613 should apply in the FSS frequency bands that are currently in heavy use by GSO FSS systems. Any modification to RR 2613 should include an express reference that makes the regulation applicable in the appropriate FSS bands.

Using the present text and format of RR 2613 and certain currently heavily-used FSS bands below 17.7 GHz (the approach described in Section B above) for purposes of example only, the proposal of IWG-1 in these bands is to alter the applicability of RR 2613 by adding language to the beginning of the regulation, as follows:

> § 2. In the frequency bands 3700-4200 MHz, 5925-6425 MHz, 10.95-11.2 GHz, 11.45-11.7 GHz, 11.7-12.2 GHz, and 14-14.5 GHz, non-geostationary ~~Non-geostationary~~ space stations shall cease or reduce to a negligible level their emissions . . .

FSS Bands Above 30.0 GHz:

IWG-1 has concluded that, at this time, MOD RR 2613 should not be applied in FSS frequency bands above 30.0 GHz. These bands have not been developed yet for either GSO or NGSO use. To the extent that the application of a provision such as MOD RR 2613 has the potential to affect the attractiveness of the use of the bands by NGSO systems, insofar as they would forever face the prospect that future GSO FSS systems could emerge and demand protection, IWG-1 concluded that it makes good policy sense not to prejudge the GSO/NGSO priority issue. Instead, FSS bands above 30.0 GHz should be free from the provisions of RR 2613 until such time as a competent future WRC, considering specific proposals for specific bands, makes an educated and informed assessment of the need and desirability of imposing or withholding the regulation.

If the modification of RR 2613 proposed above is made, no further changes are required to implement this proposal. If the modification is not made, the following sentence should be added to the end of RR 2613:

MOD 2613 Add Following Language to End of No. 2613:

This Regulation shall not apply in any frequency bands above 30.0 GHz.

Reason:

To provide flexibility to determine, on a case-by-case basis, the need for application of the protections that RR 2613 was intended to provide to GSO FSS systems in bands yet to be proposed for development and exploitation.

2. Bands Between 17.7 and 30.0 GHz:

In the FSS bands at 17.7-20.2 GHz and 27.5-30.0 GHz, IWG-1 reached agreement on a proposed approach to the applicability of RR 2613 in frequency band segments that may be designated for the use of NGSO MSS feeder links by a WRC. For reasons identified in Section A above, however, IWG-1 was unable to reach agreement on whether or how to apply RR 2613 in those segments of the bands that are not so designated, or in the event that no designation for NGSO MSS feeder links is made at all. In the latter situation, IWG-1 has agreed to outline the issues for the IAC and the Commission.

FSS Bands Between 17.7 and 30.0 GHz Designated for NGSO MSS Feeder Link Use:

In any segments of the frequency bands 17.7-20.2 GHz and 27.5-30.0 GHz that are designated by a WRC of competent jurisdiction for the use of NGSO MSS feeder links, MOD RR 2613 would not apply. See Report of IWG-4 for examples of how the exclusion of RR 2613 could be included in the Table of Frequency Allocations in Article 8.

FSS Bands Between 17.7 and 30.0 GHz Not Designated for NGSO MSS Feeder Link Use:

In the event that band segments within the 17.7-20.2 GHz and 27.5-30.0 GHz bands are not designated for NGSO MSS use, or outside those segments that are so designated, IWG-1 was unable to reach agreement on how to treat MOD RR 2613. Two principal positions emerged:

NGSO Viewpoint:

The NGSO interests participating in IWG-1 -- in this case, including both NGSO MSS feeder link networks and proponents of NGSO systems that would use the subject bands for FSS/MSS service links in addition to feeder links -- believe that RR 2613 should not be applied at all in the 17.7-20.2 GHz and 27.5-30.0 GHz bands. In their view, the

regulation unreasonably constrains the NGSO services by directing that even NGSO systems that are long established in the bands must yield to a new GSO FSS network that is operating in accordance with the Regulations under the circumstances identified in RR 2613. Not only would GSO FSS systems have little or no incentive to coordinate with the NGSO system (knowing it could always invoke the cessation/reduction provision if a good accommodation could not be reached), it would deprive operating NGSO systems of the ability to object to any future GSO FSS entry. The concern is that once a certain -- and likely low -- number of GSO FSS systems are factored in, the ability of an NGSO system to accommodate additional GSO FSS systems, and to continue to operate with the required degree of reliability, will end. In other words, as the geostationary arc at 17.7-20.2 GHz and 27.5-30.0 GHz approaches the orbital congestion that characterizes the FSS bands below 17.7 GHz, the same bars that now preclude NGSO operation in the lower bands will arrive at Ka-band.

The proposal of the NGSO interests for the portions of the 17.7-20.2 GHz and 27.5-30.0 GHz bands that are not designated for NGSO MSS feeder link use would be as follows: If RR 2613 is modified to specify the frequency bands in which the regulation applies, it is necessary only to ensure that MOD RR 2613 does not specify any frequencies in the 17.7-30.0 GHz range. If RR 2613 is not modified to specify the bands within which the regulation applies, footnotes would be added to the Table of Frequency Allocations in Article 8, attached to the entire 17.7-20.2 GHz and 27.5-30.0 GHz bands, stating that:

ADD

XXX <u>The provisions of No. 2613 do not apply to this fixed-satellite allocation.</u>

GSO FSS Viewpoint:

The GSO FSS interests participating in IWG-1 believe that RR 2613 should apply in all segments of the 17.7-20.2 GHz and 27.5-30.0 GHz bands that are not specifically designated for use by NGSO MSS feeder link networks. It is the view of these parties that the spectrum at Ka-band is intended to provide spectrum into which existing FSS systems at 4/6 GHz and 12/14 GHz are to expand and evolve. If GSO FSS systems are required to share spectrum with NGSO systems, but have no means of protecting themselves against NGSO systems operating on a co-directional basis, they will not have access to sufficient spectrum to enable their business plans to succeed. The GSO FSS interests are particularly interested in the use of the 17.7-20.2 GHz and 27.5-30.0 GHz bands for two-way, point-to-point and point-to-multipoint applications among small, ubiquitous earth

stations, in addition to large-dish applications of the "INTELSAT type." The envisioned use of small terminals significantly complicates the sharing considerations between GSO FSS and NGSO systems, and thereby increases the need for some continuing applicability of RR 2613 in the bands.

In the view of the GSO FSS interests, the concerns expressed by NGSO interests over the application of RR 2613 in the 17.7-20.2 GHz and 29.5-30.0 GHz bands do not take into consideration the fact that IWG-1 has concluded that RR 2613 should not be applied in bands or sub-bands designated for NGSO MSS feeder links. These designated bands or sub-bands are scaled to accommodate the foreseeable needs of the NGSO proponents whose rights are protected either by CPM-95 Ka-Band Allocation Option 1 (which is preferred by GSO FSS interests) or by CPM-95 Ka-Band Allocation Option 2 (which is preferred by NGSO MSS feeder link interests). Since an established NGSO system would have started service in the bands or sub-bands designated for such systems, and since RR 2613 would not apply in these bands or sub-bands, the NGSO system would never have to yield to a new GSO FSS network under RR 2613. This concern, and the argument that GSO FSS systems would have little or no incentive to coordinate with NGSO systems, are thus relevant only to bands outside those designated for NGSO use.

ANNEXES TO SECTION IV

DISCUSSION OF SUBSTANTIVE MODIFICATIONS TO RR 2613

Interpretation of Current Text of RR 2613

On its face, RR 2613 does not relegate NGSO space stations (or their associated earth stations) to secondary status with respect to GSO FSS operations in FSS bands. Under the Radio Regulations, stations in a "secondary" service shall not cause "harmful" interference to primary or permitted service stations that are using the subject frequency bands in a manner consistent with the Radio Regulations. See RR 420-423. In RR 2613, the "obligation" of NGSO space stations to reduce their emissions to a negligible level (or cease them altogether) does not arise unless there is "insufficient angular separation" between NGSO and GSO satellites that causes "unacceptable interference" to GSO FSS space systems. The RR 2613 obligation is not affected by a station's "primary" or "secondary" status.

In addition, and by virtue of the use of the term "unacceptable interference" as a condition that must exist before the RR 2613 obligations can come into play, the requirement cannot be applied without prior coordination between affected systems of different administrations. The term "unacceptable interference" is not defined in the Radio Regulations. However, the term "accepted interference" is defined in RR 162 as "*[i]nterference* at a higher level than that defined as *permissible interference* and which has been agreed upon between two or more administrations without prejudice to other

administrations." It also appears that the term "unacceptable interference" is used to signify a level of interference that is in excess of "accepted interference." See Note 1 to RR 2613 (RR 2613.1/2614.1). See also RR 2619 & n.3 (RR 2619.1). It thus becomes the case that a finding of "unacceptable interference" -- i.e., a level of interference that exceeds a level that had previously been agreed upon between two or more administrations -- can only be made if there has been some initial agreement on acceptable interference levels between two or more administrations.

Finally, RR 2613 is limited in application to GSO satellites and associated earth stations that provide FSS service. Only space systems comprised of GSO FSS satellites can invoke RR 2613, because RR 2613 applies only to GSO space systems "in the fixed-satellite service operating in accordance with these Regulations."

Under these circumstances, and as the FCC appears to have concluded in its Big LEO rulemaking proceeding, it is a legitimate construction of RR 2613 to conclude that three conditions must be met before a NGSO system would be required to cease or reduce transmissions in order to protect a GSO system: (1) the administrations of the systems involved must engage in bi-lateral or multi-lateral discussions and reach agreement as to a level of "accepted interference" (see RR 162); (2) after the systems are in operation, the NGSO system must exceed the level of interference agreed to; and (3) the interference in excess of the agreed level must be caused by the failure of the NGSO system

to maintain sufficient angular separation between the satellites of the two systems. If any of these three conditions is not met, RR 2613 cannot be invoked to affect the operations of any NGSO satellites.

There is no guarantee that other administrations would share the view expressed above, and even if it were applied in some instances, there is no certainty that the interpretation would be perpetuated.

* * *

As noted in the Report of IWG-1, IWG-1 agreed that current RR 2613 does not achieve its objective, and that the regulation should be substantively modified. The group, however, did not undertake to identify the types of changes that should be made.

In the following Annexes, the views of several participants in IWG-1 as to how RR 2613 should be substantively modified are provided. The views and proposals presented in these Annexes are those of the identified authors. They were not discussed by IWG-1, and thus do not reflect the consensus of IWG-1.

ANNEX 1